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# The Readiness of the Level 3 Nursing Students of University of Luzon in Their Operating Room Experience

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## Abstract

Introduction: Operating rooms, often referred to as the "heart" of any hospital, demand a unique set of skills, knowledge, and personal attributes from healthcare professionals. Early exposure to healthcare settings is crucial for fostering student confidence and competence, providing them with the tools to manage complex patient situations. Studies show that early clinical exposure helps students enhance their communication, teamwork, and professional identity, giving them firsthand experience with patient care and the healthcare system. This exposure also fosters compassion and a deeper understanding of patient needs. Objective: The study aimed to assess the readiness of the 3rd year nursing students in the operating room, which covers knowledge, Skills, and Attitude (KSA). Method: The descriptive quantitative method was utilized in this study. The study limits its coverage to forty-two (42) 3rd year nursing students at the University of Luzon for the school year 2023-2024 only. Each student was given the same set of questionnaires distributed through an online survey. Results: Findings concluded that various preparation procedures, such as lectures accompanied by return demonstrations, have aided in the preparation of the students for their operating room experience. However, as novices in the operating room, most students lack the coping mechanisms. Clonclusion: stress management techniques needed to cope in the busy world of the operating room.

#### Keywords:

Readiness, Nursing Students, Operating Room, Experience



#### INTRODUCTION

Nursing focuses on developing practical skills, with clinical internships being a key approach in nursing education. These internships play a crucial role in helping students shift from theoretical learning to hands-on practice (Gassas, 2021). For level 3 nursing students, the operating room exposure marks a pivotal point in their education, where theoretical knowledge transforms into practical expertise. Level III nursing students, having finished the majority of their classroom-based studies, are about to begin their first clinical rotations. Although they have a strong grounding in nursing theory and have started to build clinical skills, they may still lack the practical experience needed to fully understand the expectations of the operating room. Gaining experience in the OR is not just a requirement for their education but also a crucial opportunity to integrate theoretical knowledge, enhance clinical skills, and become familiar with specialized surgical procedures (Banneheke et al., 2017).

Clinical exposure in the operating room provides student nurses with a unique and invaluable learning experience that goes beyond textbook knowledge. It equips them with essential skills, knowledge, and confidence needed for a successful nursing career and contributes to their overall professional growth (Labuschagne, 2019).

According to the Commission on Higher Education (CHED Memorandum Order Article VI Section 13.4, the Related Learning Experiences (RLEs) are teaching and learning experiences meant to help students develop abilities in a variety of health situations (CHED, 2020). For level 3 nursing students, the operating room exposure marks a pivotal point in their education, where theoretical knowledge transforms into practical expertise.

This study therefore aims to explore how readiness and confidence would be serving as a big factor a student nurse in becoming professionals in the operating room, especially on the areas that require strict attention such as the infection prevention and control and safety measures within the operating room and the common concerns and anxieties that they have experienced before and during their exposure.

## METHOD

#### 1. Design

A descriptive-quantitative approach is wellsuited for this study as it offers a detailed and accurate portrayal or summary of a phenomenon without manipulating the variables. It facilitates a comprehensive exploration of real-life situations, describing the features and correlations among individuals, situations, or groups (Mohajan, 2020).

2. Number of samples and sampling techniques

This research involved nursing students enrolled at the College of Nursing in a private university located in Dagupan City. All students, regardless of their grade level, gender, ethnicity, or age, who will undergo their initial clinical exposure in the college are eligible for inclusion. Additionally, nursing students have the autonomy to provide consent.

Excluded from this study are the researchers, transfer students, individuals with incomplete academic records, and those who did not provide consent. Furthermore, students from different academic years, departments, or institutions are not part of the study's scope.

The study was carried out at the University of Luzon, situated on Perez Boulevard in Dagupan City, Pangasinan, which holds a Level III Accreditation for the 2023-2024 academic year. By concentrating on this specific institution and its location in Dagupan City, the study highlights the unique challenges and opportunities of this setting.

3. Instruments

The data collection method employed in gathering information from the participants involved the utilization of a survey questionnaire consisting of recognition-type questions, administered through an online data collection method. This questionnaire underwent validation by professional validators for corrections, suggestions, and grammatical improvements.

The questionnaire was divided into three sections. Part I focused on obtaining the demographic profile of the respondents, encompassing details such as age and gender. Respondents were required to mark checkboxes to indicate their answers to the questions formulated by the researchers. Part II includes the questions that were arranged according to the statement of the problem, which aims to determine the level of awareness of the respondents regarding infection prevention and control and safety measures in the operating room. This section involves three categories: pre-operative, intra-operative, and post-operative aspects.

Part III of the questionnaire includes questions from the statement of the problem, which aims to determine the common concerns and anxieties expressed by the nursing students. Under this were three categories: emotional, mental, environmental aspects.

To ascertain the validity of the research tool, expert validators thoroughly assessed the research questionnaire. Their evaluation aimed to uphold the integrity, quality, and accuracy of both the research data and the instrument itself. Additionally, they identified errors, suggested corrections in grammar, and provided recommendations to enhance the study's precision and effectiveness.

Moreover, the researchers collaborated with seven licensed experts possessing equal interest, background, and significant relevant experience in the field. These validators, including Registered Nurses, nursing educators, and clinical instructors, were selected for their expertise. Hence, the researchers firmly believe that their knowledge, guidance, and expertise are integral to the success of this research.

To ascertain the reliability of the tool, a pilot test was conducted in partnership with another university in Dagupan City, which also offers a nursing program. Researchers administered an online survey questionnaire to 42 nursing students from this different university. The Cronbach's alpha obtained a score of 0.87, signifying an acceptable level of reliability for the tool. Flores, et al.

#### 4. Data collection process

The researchers acquired permission and approval from the Dean of the University of Luzon College of Nursing.

After obtaining consent, the researchers established a collaboration with the respondents. Respondents was given the option to decide whether to disclose their identities in the responses, with the assurance that the results will be kept confidential, ensuring anonymity, and used exclusively for research purposes.

#### 5. Analysis

The survey data were structured and organized in an Excel spreadsheet, while archived data were manually inputted int- separate Excel sheets. To prevent any missing data and ensure accuracy, six members of the research team crosschecked the data meticulously.

#### 6. Research Ethics

The University of Luzon College of Nursing Research Ethics Committee approved the research under Approval Number NR-SL-002-23. The researchers also obtained informed consent from all participants, detailing the study's goals, potential benefits from the results, and the estimated time

Table 1. Profil of the Respondents (N=22)

needed to complete the questionnaire, which was the main inconvenience of the study. No incentives or coercion were involved. Participants had the option to withdraw at any time. The survey was administered between the third and fourth weeks of January 2024.

#### RESULT

Results depict that among the 42 students that were targeted in the study from 3rd year of the school year 2023-2024 are within the age range 21-25 years old, constituting 83.33% of the participants were female and 16.67% were male. This study also illustrates the students' understanding on infection prevention and control and safety measures in the operating room, including the skills, knowledge, and attitude-related challenges encountered by the respondents in their operating room experience. It shows that students are competent in terms of the IPC and safety measures within the operating room while the respondents also showed a significant change when it comes to the challenges they have encountered.

Variables	Frequency	Percentage
Age		
20 years old and below	14	33.33
21-25 years old	25	59.52
26-30 years old	3	7.14
Gender		
Female	35	83.33
Male	7	16.67

Table 2. Infection Prevention and Control and Safety Measures in Pre-Operative Phase (N=42)

	Variables	Mean	SD	Interpretation
1.	Maintain the sterility of the area in the operating room.	3.95	3.42	Highly Aware
2.	Performing the proper procedure in surgical hand washing.	3.90	3.38	Highly Aware
3.	Wearing proper sterile gowning.	3.93	3.40	Highly Aware
4.	Do proper sterile gloving.	3.81	3.30	Highly Aware
5.	Prepare sterile instruments without having a problem.	3.5	3.01	Highly Aware
6.	Maintain the privacy of the patient.	3.90	3.38	Highly Aware
7.	Ensure to always keep the patient safe.	3.93	3.40	Highly Aware
	Pre-Operative Phase	3.72	23.29	Highly Aware

	Variables	Mean	SD	Indicators
1.	Remain sterile during any procedure in operating room.	3.90	3.38	Highly Aware
2.	Proper sterilization of the incision area.	3.83	3.32	Highly Aware
3.	Maintain proper sterile draping.	3.79	3.27	Highly Aware
4.	Ensuring a sterile area and aseptic working		3.34	
	during the surgery; ensuring the safe use of surgical instruments.	3.86		Highly Aware
5.	Keeps track on instruments and counting materials, such as sponges, needles, and instruments used during the surgery to ensure that none are left inside the patient.	3.76	3.26	Highly Aware
	Intra-Operative Phase	3.82	16.57	Highly Aware

## Table 3. Infection Prevention and Control and Safety Measures in Intra-Operative Phase (N=42)

 Table 4. Infection Prevention and Control and Safety Measures in Post-Operative Phase (N=42)

	Variables	Mean	SD	Indicators
1.	Recounts instruments after surgery correctly.	3.86	3.34	Highly Aware
2.	Do proper covering of the incision site of the patient.	3.79	3.27	Highly Aware
3.	Knows the proper disposal rules after a surgery.	3.79	3.27	Highly Aware
4.	Properly dispose any hazardous waste after procedure.	3.83	3.32	Highly Aware
5.	Properly clean the area as well as the instruments used in the operation.	3.93	3.40	Highly Aware
	Post-Operative Phase	3.84	16.60	Highly Aware

 Table 5. Related Challenges Encountered in Emotional Aspect

	Variables	Mean	SD	Indicators
1.	I felt the lack confidence in doing any nursing procedure.	2.83	2.35	Moderately Aware
2.	I feel that my classmates are better than me in doing any procedure.	2.81	2.37	Moderately Aware
3.	I recover emotionally immediately after doing a procedure.	3.17	2.72	Moderately Aware
4.	I worry about making mistakes during procedure.	3.52	3.07	Highly Aware
5.	I fear doing extreme procedures in operating room.	3.29	2.86	Moderately Aware
	Emotional Aspect	3.12	13.37	Moderately Aware

Table 6. Related Challenges Encountered in Mental Aspect

	Variables	Mean	SD	Indicators
1.	I am worried about doing complex procedures.	3.33	2.86	Highly Aware
2.	I can cope up with high-pressure and high- stress environments.	3.31	2.81	Highly Aware

	Variables	Mean	SD	Indicators
3.	I can respond and make decisions effectively in emergency situations during surgical procedures.	3	2.54	Moderately Aware
4.	I feel nervous working with professionals in the operating room.	3.24	2.81	Moderately Aware
5.	I can maintain focus even when faced in complex situations.	3.21	2.75	Moderately Aware
	Mental Aspect	3.22	13.78	Moderately Aware

**Table 7.** Related Challenges Encountered in Environmental Aspect

	Variables	Mean	SD	Indicators
1.	I feel unfamiliar to the operating room area.	2.67	2.23	Moderately Aware
2.	I am pressured to the number of instruments to be memorized.	2.86	2.40	Moderately Aware
3.	I can keep up with intense works in the operating room.	3.05	2.56	Moderately Aware
4.	I can withstand prolonged standing and awkward position during surgery.	3.29	2.80	Highly Aware
5.	I can work effectively with limited space and movement.	3.21	2.73	Moderately Aware
	Environmental Aspect	3.01	13.78	Moderately Aware

## DISCUSSION

The results indicate a high level of awareness among nursing students regarding IPC protocols across the pre-operative, intra-operative, and postoperative phases of surgery. This is encouraging as it demonstrates that the educational curriculum effectively imparts crucial knowledge about maintaining sterility and preventing surgical site infections (SSIs). The high scores in awareness, particularly in the pre-operative phase, suggest that students are well-versed in the foundational practices required to ensure patient safety.

However, the gap between theoretical knowledge and practical application is evident when considering the challenges reported by students. Despite their understanding of IPC measures, the moderate levels of anxiety and mental stress indicate that knowledge alone is insufficient to ensure readiness for OR duties. This finding is consistent with studies that highlight the importance of bridging the gap between classroom learning and hands-on practice through simulation and other experiential learning opportunities.

Studies suggest that the high-stress OR environment can be both intimidating and valuable. Nursing students often feel unprepared for the fastpaced and hierarchical atmosphere of the OR, which contrasts with classroom learning. However, this experience allows them to consolidate theoretical knowledge and develop critical clinical skills, particularly related to teamwork and patient care. Research has highlighted key factors that impact learning in the OR, such as the support and guidance of experienced staff, student preparedness, and motivation. A Delphi study identified that factors like instructor engagement and structured feedback significantly enhance student learning in the OR, while issues like lack of autonomy or insufficient preparation may hinder it. This indicates the need for wellorganized curricula to improve OR-based education (Cope et al., 2019), (Brown, 2019).

Studies comparing different countries reveal variations in how OR rotations are structured. For instance, Scandinavian countries often emphasize collaborative learning and extended mentorship, while North American programs may focus more on individual competency (Gillespie et al., 2018).

Some studies highlight that while students gain valuable skills, they face challenges like stress and role confusion due to the high-pressure environment of the OR. This can lead to gaps between theoretical learning and practical application. Other research emphasizes the significant opportunity the OR provides for consolidating knowledge and building confidence, particularly through exposure to specialized procedures and teamwork dynamics (Tambunan, 2024). Cross-country comparisons also indicate differences in perceived competence based on educational background and experience length (Gillespie et al., 2018).

These challenges underscore the need for educational programs to incorporate psychological support and resilience training as part of the nursing curriculum. Techniques such as mindfulness, stress management workshops, and peer support systems could be beneficial in helping students manage the psychological demands of the OR.

Environmental factors, such as unfamiliarity with the OR setting and the pressure to quickly memorize surgical instruments and protocols, were also highlighted by the students. These challenges suggest that while theoretical instruction is robust, more emphasis is needed on acclimating students to the physical and procedural environment of the OR before they begin their clinical rotations (Wang et al., 2024).

Introducing more frequent and varied simulation experiences could help students become more comfortable with the OR environment. Additionally, providing opportunities for students to observe and participate in surgeries early in their training could reduce the initial shock and anxiety associated with OR exposure.

Overall, while the OR provides a unique, hands-on learning environment, effective mentorship and preparation are crucial to help nursing students transition smoothly from theoretical learning to clinical competence.

# CONCLUSION

Based on the findings of the study, the following conclusions were drawn:

The chosen respondents of the study were the 3rd year students from the College of Nursing of the University of Luzon, Dagupan City. Most of them are between the ages of 21-25 years old, female.

The majority of the respondents said that they were highly aware of the infection prevention and control and safety measures in the operating room. Through undergoing different return demonstrations, students became highly aware of the routine in the operating room, most especially in maintaining the sterility of the area, pre-operatively. Remaining sterile during any procedure is a professional and ethical responsibility that all surgeons and operating room staff must always observe. Finally, providing the highest standard of care includes ensuring a clean and infection-free environment to optimize patient outcomes.

For first timers, especially nursing students who only have theoretical knowledge about the routine in a certain area such as the operating room, having concerns and anxieties are expected. They often worry about making mistakes during procedures especially with the thought that they are handling the life of a real person. Because they worry about doing complex tasks and procedures, students become highly anxious. Lastly, being exposed to the operating room and its routines will serve as an overview of what they are going to expect as soon as they become professionals, such as learning how to withstand prolonged standing and awkward positions during surgeries.

## **Conflict of Interest**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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